What is claimed is:

1. A composition comprising a pharmaceutically acceptable particle and a stable HIV-1 pre-fusion envelope glycoprotein trimeric complex operably affixed thereto, each monomeric unit of the complex comprising HIV-1 gp120 and HIV-1 gp41, wherein (i) the gp120 and gp41 are bound to each other by at least one disulfide bond between a cysteine residue introduced into the gp120 and a cysteine residue introduced into the gp41, and (ii) the gp120 has deleted from it at least one V-loop present in wild-type HIV-1 gp120.

2. The composition of claim 1, wherein the stable HIV-1 pre-fusion envelope glycoprotein trimeric complex is operably affixed to the particle via an agent which is operably affixed to the particle.

3. The composition of claim 1, further comprising a pharmaceutically acceptable carrier.

4. The composition of claim 1, further comprising an adjuvant.

5. The composition of claim 1, wherein the gp120 has deleted from it one or more of variable loops V1, V2 and V3.

6. The composition of claim 1, wherein the disulfide bond is formed between a cysteine residue introduced by an A492C mutation in gp120 and a cysteine residue introduced by a T596C mutation in gp41.

7. The composition of claim 1, wherein the gp120 is further characterized by (i) the absence of one or more canonical glycosylation sites present in wild-type HIV-1 gp120, and/or (ii) the presence of one or more canonical glycosylation sites absent in wild-type HIV-1 gp120.

8. The composition of claim 1, wherein the particle is selected from the group consisting of a paramagnetic bead, a non-paramagnetic bead, a liposome and any combination thereof.

9. The composition of claim 1, wherein the particle comprises PLG, latex, polystyrene, polymethyl-methacrylate, or any combination thereof.

10. The composition of claim 1, wherein the mean diameter of the particle is from about 10nm to 100μm.

11. The composition of claim 10, wherein the mean diameter of the particle is from about 100nm to 10μm.

12. The composition of claim 10, wherein the mean diameter of the particle is from about 100nm to 1μm.

13. The composition of claim 10, wherein the mean diameter of the particle is from about 1μm to 10μm.

14. The composition of claim 10, wherein the mean diameter of the particle is from about 10μm to 100μm.

15. The composition of claim 1, wherein the mean diameter of the particle is from about 10nm to 100nm.

16. The composition of claim 1, wherein the mean diameter of the particle is about 50nm.

17. The composition of claim 2, wherein the agent is selected from the group consisting of an antibody, a fusion protein, streptavidin, avidin, a lectin, and a receptor.

18. The composition of claim 2, wherein the agent is CD4.

19. The composition of claim 17, wherein the agent is an antibody.

20. The composition of claim 4, wherein the adjuvant is selected from the group consisting of alum, Freund's incomplete adjuvant, saponin, Quil A, QS-21, Ribi Detox, monophosphoryl lipid A, a CpG oligonucleotide, CRL-1005, L-121, and any combination thereof.

21. The composition of claim 3, further comprising a cytokine and/or a chemokine.

22. The composition of claim 21, wherein the cytokine is selected from the group consisting of interleukin-2, interleukin-4, interleukin-5, interleukin-12, interleukin-15, interleukin-18, GM-CSF, and any combination thereof.

23. The composition of claim 21, wherein the chemokine is selected from the group consisting of SLC, ELC, Mip3α, Mip3β, IP-10, MIG, and any combination thereof.

24. A method for eliciting an immune response in a subject against HIV-1 or an HIV-1-infected cell comprising administering to the subject a prophylactically or therapeutically effective amount of the composition of claim 1.

25. The method of claim 24, wherein the composition is administered in a single dose.

26. The method of claim 24, wherein the composition is administered in multiple doses.

27. The method of claim 24, wherein the composition is administered as part of a heterologous prime-boost regimen.

28. A vaccine which comprises a therapeutically effective amount of the composition of claim 1 and a pharmaceutically acceptable carrier.

29. A vaccine which comprises a prophylactically effective amount of the composition of claim 1 and a pharmaceutically acceptable carrier.

30. A method for preventing a subject from becoming infected with HIV-1 comprising administering to the subject a prophylactically effective amount of the composition of claim 1, thereby preventing the subject from becoming infected with HIV-1.

31. A method for reducing the likelihood of a subject's becoming infected with HIV-1 comprising administering to the subject a prophylactically effective amount of the composition of claim 1, thereby reducing the

likelihood of the subject's becoming infected with HIV-1.

32. The method of claim 30 or 31, wherein the subject is HIV-1-exposed.

33. A method for preventing or delaying the onset of, or slowing the rate of progression of, an HIV-1-related disease in an HIV-1-infected subject which comprises administering to the subject a therapeutically effective amount of the composition of claim 1, thereby preventing or delaying the onset of, or slowing the rate of progression of, the HIV-1-related disease in the subject.

34. A method for producing the composition of claim 1, comprising contacting a pharmaceutically acceptable particle with a stable HIV-1 pre-fusion envelope glycoprotein trimeric complex under conditions permitting the complex to become operably affixed to the particle, wherein each monomeric unit of the complex comprises HIV-1 gp120 and HIV-1 gp41, (i) the gp120 and gp41 being bound to each other by at least one disulfide bond between a cysteine residue introduced into the gp120 and a cysteine residue introduced into the gp41, and (ii) the gp120 having deleted from it at least one V-loop present in wild-type HIV-1 gp120.

35. A method for producing the composition of claim 2, comprising contacting (a) a pharmaceutically acceptable particle having operably affixed thereto an agent which binds to a stable HIV-1 pre-fusion envelope glycoprotein trimeric complex and (b) a stable HIV-1

pre-fusion envelope glycoprotein trimeric complex under conditions permitting the complex to bind to the agent, thereby permitting the complex to become operably affixed to the particle, wherein each monomeric unit of the complex comprises HIV-1 gp120 and HIV-1 gp41, (i) the gp120 and gp41 being bound to each other by at least one disulfide bond between a cysteine residue introduced into the gp120 and a cysteine residue introduced into the gp41, and (ii) the gp120 having deleted from it at least one V-loop present in wild-type HIV-1 gp120.

36. The method of claim 35, wherein the stable HIV-1 pre-fusion envelope glycoprotein trimeric complex of part (b) is present in a heterogeneous protein sample.

37. A method for isolating a stable HIV-1 pre-fusion envelope glycoprotein trimeric complex comprising

(a) contacting, under suitable conditions, a stable HIV-1 pre-fusion envelope glycoprotein trimeric complex-containing sample with a pharmaceutically acceptable particle having operably affixed thereto an agent which specifically binds to the trimeric complex, wherein each monomeric unit of the complex comprises HIV-1 gp120 and HIV-1 gp41, (i) the gp120 and gp41 being bound to each other by at least one disulfide bond between a cysteine residue introduced into the gp120 and a cysteine residue introduced into the gp41, and (ii) the gp120 having deleted from it at least one V-loop present in wild-type HIV-1 gp120; and

(b) separating the particle from the sample, thereby isolating the trimeric complex.

38. A composition comprising (a) a pharmaceutically acceptable particle, (b) an antigen, and (c) an agent which is operably affixed to the particle and is specifically bound to the antigen, whereby the antigen is operably bound to the particle.

39. The composition of claim 38, wherein the antigen is a tumor-associated antigen.

40. The composition of claim 38, wherein the antigen is derived from a pathogenic microorganism.

41. The composition of claim 38, further comprising a pharmaceutically acceptable carrier.

42. The composition of claim 38, further comprising an adjuvant.

43. The composition of claim 38, wherein the particle is selected from the group consisting of a paramagnetic bead, a non-paramagnetic bead, a liposome and any combination thereof.

44. The composition of claim 38, wherein the particle comprises PLG, latex, polystyrene, polymethyl-methacrylate, or any combination thereof.

45. The composition of claim 38, wherein the mean diameter of the particle is from about 10nm to 100μm.

46. The composition of claim 45, wherein the mean diameter of the particle is from about 100nm to 10μm.

47. The composition of claim 45, wherein the mean diameter of the particle is from about 100nm to 1μm.

48. The composition of claim 45, wherein the mean diameter of the particle is from about 1μm to 10μm.

49. The composition of claim 45, wherein the mean diameter of the particle is from about 10μm to 100μm.

50. The composition of claim 45, wherein the mean diameter of the particle is from about 10nm to 100nm.

51. The composition of claim 45, wherein the mean diameter of the particle is about 50nm.

52. The composition of claim 45, wherein the agent is selected from the group consisting of an antibody, a fusion protein, streptavidin, avidin, a lectin, and a receptor.

53. The composition of claim 52, wherein the agent is an antibody.

54. The composition of claim 42, wherein the adjuvant is selected from the group consisting of alum, Freund's incomplete adjuvant, saponin, Quil A, QS-21, Ribi Detox, monophosphoryl lipid A, a CpG oligonucleotide, CRL-1005, L-121, and any combination thereof.

55. The composition of claim 41, further comprising a cytokine and/or a chemokine.

56. The composition of claim 55, wherein the cytokine is selected from the group consisting of interleukin-2, interleukin-4, interleukin-5, interleukin-12, interleukin-15, interleukin-18, GM-CSF, and any combination thereof.

57. The composition of claim 55, wherein the chemokine is selected from the group consisting of SLC, ELC, Mip3α, Mip3β, IP-10, MIG, and any combination thereof.

58. A method for eliciting an immune response against an antigen in a subject comprising administering to the subject a prophylactically or therapeutically effective amount of the composition of claim 38, wherein the composition comprises the antigen against which the immune response is elicited operatively bound to the particle of the composition.

59. The method of claim 58, wherein the composition is administered in a single dose.

60. The method of claim 58, wherein the composition is administered in multiple doses.

61. The method of claim 58, wherein the composition is administered as part of a heterologous prime-boost regimen.

62. A vaccine which comprises a therapeutically effective amount of the composition of claim 38 and a pharmaceutically acceptable carrier.

63. A vaccine which comprises a prophylactically effective amount of the composition of claim 38 and a pharmaceutically acceptable carrier.

64. A method for preventing a subject from becoming infected with a virus comprising administering to the subject a prophylactically effective amount of the composition of claim 38, wherein the antigen of the composition is present on the surface of the virus, thereby preventing the subject from becoming infected with the virus.

65. A method for reducing the likelihood of subject's becoming infected with a virus comprising administering to the subject a prophylactically effective amount of the composition of claim 38, wherein the antigen of the composition is present on the surface of the virus, thereby reducing the likelihood of the subject's becoming infected with the virus.

66. The method of claim 65, wherein the subject has been exposed to the virus.

67. A method for preventing or delaying the onset of, or slowing the rate of progression of, a virus-related disease in a virus-infected subject comprising administering to the subject a therapeutically effective amount of the composition of claim 38, wherein the antigen of the composition is present on the surface of the virus, thereby preventing or delaying the onset of, or slowing the rate of progression of, the virus-related disease in the subject.

68. A method for producing the composition of claim 38, comprising contacting (a) a pharmaceutically acceptable particle having operably affixed thereto an agent which specifically binds to an antigen and (b) the antigen, under conditions permitting the antigen to bind the agent, thereby permitting the antigen to become operably affixed to the particle.

69. The method of claim 68, wherein the antigen is a tumor-associated antigen.

70. The method of claim 68, wherein the antigen is derived from a pathogenic microorganism.

71. A method for eliciting an immune response against a tumor-specific antigen in a subject comprising administering to the subject a prophylactically or therapeutically effective amount of the composition of claim 69.

72. A method for preventing the growth of, or slowing the rate of growth of, a tumor in a subject comprising administering to the subject a therapeutically effective amount of the composition of claim 69, wherein the tumor-associated antigen of the composition is present on the surface of cells of the tumor, thereby preventing the growth of, or slowing the rate of growth of, the tumor in the subject.

73. A method for reducing the size of a tumor in a subject comprising administering to the subject a therapeutically effective amount of the composition of claim 69, wherein the tumor-associated antigen of the composition is present on the surface of cells of the

tumor, thereby reducing the size of the tumor in the subject.

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